

Reissue Patent Application
U.S. Patent No. 5,919,556
Atty. Docket No. 6117CE

AMENDMENTS TO THE CLAIMS

Please amend the claims of the above-identified reissue application by adding the following new claims 19-42.

Listing of Claims:

1. (previously presented) A heterogeneous multiple ply tissue paper product having n plies joined together, wherein n is an integer greater than or equal to 2, the multiple ply tissue product comprising at least:
 - a first ply having a texture value of a non-embossed portion of the first ply; and
 - a second ply having a texture value of a non-embossed portion of the second ply which is at least about 1.5 times the texture value of the first ply.
2. (previously presented) The multiple ply tissue paper product of Claim 1 wherein the texture value of the second ply is at least about 2.0 times the texture value of the first ply.
3. (previously presented) The multiple ply tissue paper product of Claim 2 wherein the texture value of the second ply is at least about 2.5 times the texture value of the first ply.
4. (previously presented) The multiple ply tissue paper product of Claim 3 wherein the texture value of the second ply is at least about 4.0 times the texture value of the first ply.
5. (previously presented) The multiple ply tissue paper product of Claim 1 wherein the non-embossed portion of the first ply has a caliper, and wherein the non-embossed portion of the second ply has a caliper which is at least about 1.25 times the caliper of the first ply.
6. (previously presented) The multiple ply tissue paper product of claim 5 wherein the caliper of the second ply is at least about 1.5 times the caliper of the first ply.
7. (previously presented) The multiple ply tissue paper product of claim 6 wherein the caliper of the second ply is at least about 2.0 times the caliper of the first ply.
8. (previously presented) The multiple ply tissue paper product of claim 1 wherein:
each of the n plies has an associated homogenous n ply absorbent capacity;

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wherein at least one of the n plies has a homogenous n ply absorbent capacity greater than the homogenous n ply absorbent capacity of at least one of the other plies; and

wherein the heterogeneous multiple ply tissue paper product has an absorbent capacity greater than the average of the homogeneous n ply absorbent capacities of the n plies.

9. (previously presented) The multiple ply tissue paper product of Claim 8 wherein the multiple ply tissue paper product has an absorbent capacity greater than the maximum homogenous n ply absorbent capacity of the n plies.

10. (previously presented) The multiple ply tissue paper product of Claim 9 wherein each of the n plies has an associate homogenous n ply absorbent rate, and wherein the multiple ply tissue paper product has an absorbent rate greater than the average of the homogenous n ply absorbent rates of the n plies.

11. (previously presented) The multiple ply tissue paper product of Claim 1 wherein at least one of the plies has a macro-density which is at least about 1.5 times the macro-density of one of the other plies.

12. (previously presented) The multiple ply tissue paper product of Claim 11 wherein at least one of the plies has a macro-density of at least about 2.5 times the macro-density of one of the other plies.

13. (previously presented) The multiple ply tissue product of Claim 1, wherein at least one of the plies comprises a paper web having regions of different density.

14. (previously presented) The multiple ply tissue product of Claim 13 wherein at least one of the plies comprises a paper web having discrete regions of relatively high density dispersed throughout one or more relatively low density regions.

15. (previously presented) The multiple ply tissue paper product of Claim 13 wherein at least one of the plies comprises a paper web having a continuous network region having a relatively high density; and a plurality of discrete regions dispersed throughout the continuous network region, the discrete regions having relatively low densities.

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16. (previously presented) The multiple ply tissue paper product of Claim 15 wherein both the first and second plies comprise a paper web having a continuous network region having a relatively high density; and a plurality of discrete regions dispersed throughout the continuous network region, the discrete regions having relatively low densities.

17. (previously presented) The multiple ply tissue paper product of Claim 16 wherein the first ply has X discrete, relatively low density regions per square inch dispersed throughout its respective continuous, relatively high density network region, the value of X being at least about 100; and wherein the second ply has Y discrete, relatively low density regions per square inch dispersed throughout its respective relatively high density, continuous network region, the value of Y being less than about 250; and wherein the ratio of X to Y is at least about 2.0.

18. (previously presented) The multiple ply tissue product of Claim 1 wherein the first ply has a surface having a texture value of less than about 10 mils and the second ply has a surface having a texture value of at least about 15 mils.

19. (new) A heterogeneous multiple ply tissue paper product according to Claim 1 wherein both the first and second plies are through-air dried paper plies.

20. (new) A heterogeneous multiple ply tissue paper product according to Claim 19 wherein the non-embossed portion of the first ply has a caliper, and wherein the non-embossed portion of the second ply has a caliper which is at least 1.25 times the caliper of the first ply.

21. (new) The multiple ply tissue paper product of Claim 19 wherein each of the n plies has an associated homogeneous n ply absorbent capacity; wherein at least one of the n plies has a homogeneous n ply absorbent capacity greater than the homogeneous n ply absorbent capacity of at least one of the other plies, and wherein the heterogeneous multiple ply tissue paper product has an absorbent capacity greater than the average of the homogeneous n ply absorbent capacities of the n plies.

22. (new) The multiple ply tissue paper product of Claim 21 wherein the multiple ply tissue paper product has an absorbent capacity greater than the maximum homogeneous n ply absorbent capacity of the n plies.

23. (new) The multiple ply tissue paper product of Claim 19 wherein each of the n plies has an associate homogeneous n ply absorbent rate, and wherein the multiple ply tissue

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paper product has an absorbent rate greater than the average of the homogeneous n ply absorbent rates of the n plies.

24. (new) The multiple ply tissue paper product of Claim 19 wherein at least one of the plies has a macro-density which is at least 1.5 times the macro-density of one of the other plies.

25. (new) The multiple ply tissue paper product of Claim 19, wherein at least one of the plies comprises a paper web having regions of different density.

26. (new) The multiple ply tissue paper product of Claim 25, wherein at least one of the plies comprises a paper web having discrete regions of relatively high density dispersed throughout one or more relatively low density regions.

27. (new) The multiple ply tissue paper product of Claim 26 wherein at least one of the plies comprises a paper web having a continuous network region having a relatively high density; and a plurality of discrete regions dispersed throughout the continuous network region, the discrete regions having relatively low densities.

28. (new) The multiple ply tissue paper product of Claim 26 wherein both the first and second plies comprise a paper web having a continuous network region having a relatively high density; and a plurality of discrete regions dispersed throughout the continuous network region, the discrete regions having relatively low densities.

29. (new) The multiple ply tissue paper product of Claim 28 wherein the first ply has X discrete, relatively low density regions per square inch dispersed throughout its respective continuous, relatively high density network regions, the value of X being at least 100; and wherein the second ply has Y discrete, relatively low density regions per square inch dispersed throughout its respective relatively high density, continuous, network region, the value of Y being less than 250; and wherein the ratio of X to Y is at least 2.0.

30. (new) The multiple ply tissue paper product of Claim 19 wherein the first ply has a surface having a texture value of less than 10 mils and the second ply has a surface having a texture value of at least 15 mils.

31. (new) A heterogeneous multiple ply tissue paper according to Claim 1 wherein the first ply is a conventional paper ply and where the second ply has a texture value that is greater than or equal to 4.0 mils .

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(new) A heterogeneous multiple ply tissue paper product according to Claim 31 wherein the non-embossed portion of the first ply has a caliper, and wherein the non-embossed portion of the second ply has a caliper which is at least 1.25 times the caliper of the first ply.

33. (new) The multiple ply tissue paper product of Claim 31 wherein each of the n plies has an associated homogeneous n ply absorbent capacity; wherein at least one of the n plies has a homogeneous n ply absorbent capacity greater than the homogeneous n ply absorbent capacity of at least one of the other plies, and wherein the heterogeneous multiple ply tissue paper product has an absorbent capacity greater than the average of the homogeneous n ply absorbent capacities of the n plies.

34. (new) The multiple ply tissue paper product of Claim 33 wherein the multiple ply tissue paper product has an absorbent capacity greater than the maximum homogeneous n ply absorbent capacity of the n plies.

35. (new) The multiple ply tissue paper product of Claim 31 wherein each of the n plies has an associate homogeneous n ply absorbent rate, and wherein the multiple ply tissue paper product has an absorbent rate greater than the average of the homogeneous n ply absorbent rates of the n plies.

36. (new) The multiple ply tissue paper product of Claim 31 wherein at least one of the plies has a macro-density which is at least 1.5 times the macro-density of one of the other plies.

37. (new) The multiple ply tissue paper product of Claim 31, wherein at least one of the plies comprises a paper web having regions of different density.

38. (new) The multiple ply tissue paper product of Claim 37, wherein at least one of the plies comprises a paper web having discrete regions of relatively high density dispersed throughout one or more relatively low density regions.

39. (new) The multiple ply tissue paper product of Claim 38 wherein at least one of the plies comprises a paper web having a continuous network region having a relatively high density; and a plurality of discrete regions dispersed throughout the continuous network region, the discrete regions having relatively low densities.

40. (new) The multiple ply tissue paper product of Claim 38 wherein both the first and second plies comprise a paper web having a continuous network region having a

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32. (new) A heterogeneous multiple ply tissue paper product according to Claim 31 wherein the non-embossed portion of the first ply has a caliper, and wherein the non-embossed portion of the second ply has a caliper which is at least 1.25 times the caliper of the first ply.

33. (new) The multiple ply tissue paper product of Claim 31 wherein each of the n plies has an associated homogeneous n ply absorbent capacity; wherein at least one of the n plies has a homogeneous n ply absorbent capacity greater than the homogeneous n ply absorbent capacity of at least one of the other plies, and wherein the heterogeneous multiple ply tissue paper product has an absorbent capacity greater than the average of the homogeneous n ply absorbent capacities of the n plies.

34. (new) The multiple ply tissue paper product of Claim 33 wherein the multiple ply tissue paper product has an absorbent capacity greater than the maximum homogeneous n ply absorbent capacity of the n plies.

35. (new) The multiple ply tissue paper product of Claim 31 wherein each of the n plies has an associate homogeneous n ply absorbent rate, and wherein the multiple ply tissue paper product has an absorbent rate greater than the average of the homogeneous n ply absorbent rates of the n plies.

36. (new) The multiple ply tissue paper product of Claim 31 wherein at least one of the plies has a macro-density which is at least 1.5 times the macro-density of one of the other plies.

37. (new) The multiple ply tissue paper product of Claim 31, wherein at least one of the plies comprises a paper web having regions of different density.

38. (new) The multiple ply tissue paper product of Claim 37, wherein at least one of the plies comprises a paper web having discrete regions of relatively high density dispersed throughout one or more relatively low density regions.

39. (new) The multiple ply tissue paper product of Claim 38 wherein at least one of the plies comprises a paper web having a continuous network region having a relatively high density; and a plurality of discrete regions dispersed throughout the continuous network region, the discrete regions having relatively low densities.

40. (new) The multiple ply tissue paper product of Claim 38 wherein both the first and second plies comprise a paper web having a continuous network region having a

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relatively high density; and a plurality of discrete regions dispersed throughout the continuous network region, the discrete regions having relatively low densities.

41. (new) The multiple ply tissue paper product of Claim 40 wherein the first ply has X discrete, relatively low density regions per square inch dispersed throughout its respective continuous, relatively high density network regions, the value of X being at least 100; and wherein the second ply has Y discrete, relatively low density regions per square inch dispersed throughout its respective relatively high density, continuous, network region, the value of Y being less than 250; and wherein the ratio of X to Y is at least 2.0.

42. (new) The multiple ply tissue paper product of Claim 31 wherein the first ply has a surface having a texture value of less than 10 mils and the second ply has a surface having a texture value of at least 15 mils.